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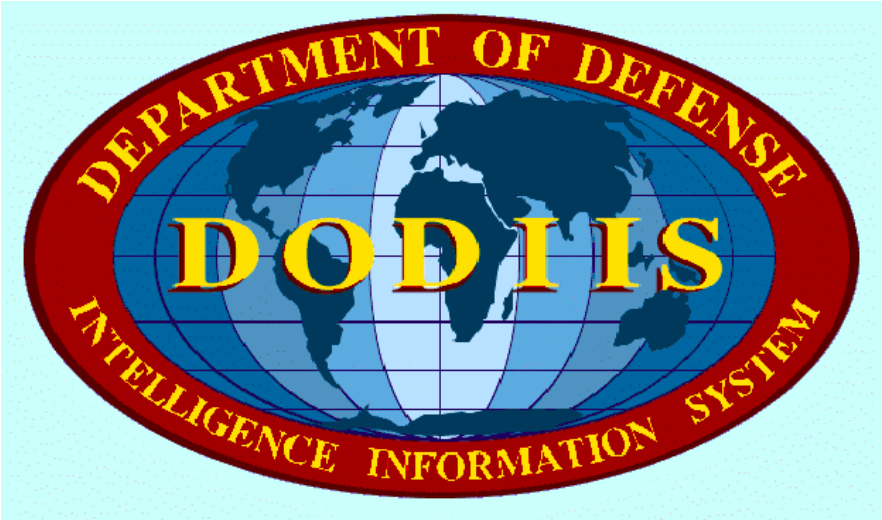


# JOINT INTEGRATION TEST FACILITY (JITF)

## Distributed Test Network (DTN)

## Concept of Operations

**January 29, 1998**

**DRAFT**

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# 1. INTRODUCTION

## 1.1 PURPOSE

The purpose of the Distributed Test Network (DTN) Concept of Operations (CONOPS) is to establish the methodology by which integration and interoperability testing will be accomplished as part of the Department of Defense Intelligence Information System (DODIIS) Migration System Certification Process. In addition, this document provides guidance to program managers (PMs) wanting to use the DTN for integration and interoperability testing and identifies actions to be completed by the Joint Integration Test Facility (JITF) in implementing testing using the DTN.

The DTN is a virtual network consisting of existing hardware and software connected by any of the following: Joint World Wide Communications System (JWICS); Secret Internet Protocol Routing NETwork (SIPRNET); or Internet. These resources increase the testing capabilities of the JITF and expand access to the JITF test environment. The expanded access is available to users at DODIIS sites, Program Management Office (PMO) locations, and other government locations.

## 1.2 SCOPE

This CONOPS provides a high level overview of the strategy that the JITF uses to establish the DTN environment for tests. It also provides the sites and migration system PMs a description of the pre-test coordination necessary to incorporate the DTN into the integration or interoperablity test scenario.

## 1.3 ASSUMPTIONS

Testing that incorporates the DTN does not alter either the testing approach or distribution of responsibilities that have been defined. The current milestones and procedures used to plan and prepare for integration testing also apply to test events that incorporate the DTN.

Results of DTN testing will be presented using the existing migration system certification processes for analysis and reporting of DTN test findings. Results will be provided in the JITF and Joint Interoperability Test Center (JITC) Test Reports in conjunction with the findings for standard integration and interoperability testing. In addition to standard reporting, the JITF and JITC will evaluate posting DTN lessons learned. Process improvement and lessons learned would include information gathered during JITF or JITC DTN testing that is perceived to be of general interest to the DODIIS community. It would also include any information shared by PMOs, identified in the Joint Test Planning Meeting (JTPM) or over the course of PMO/JITF/JITC interactions. This information will be made available to the community via the Virtual Test Folder (VTF).

## 2. REFERENCES

Justification and Remarks for Joint Integration Test Facility, Joseph D. Baldino, Chief, Systems Analysis, DIA, Washington DC (15 June 1995)

Charter for a Test Planning Working Group (TPWG) in Support of Joint Integrated Test Facility Testing (29 March 1996)

Joint Integration Test Facility/Joint Interoperability Test Center /DODIIS Management Board Memorandum of Understanding (October 1995)

DODIIS Migration Systems Instructions to DEXAs, PMOs, and Developers (December 1996)

Test and Evaluation Policy for DODIIS Automated Information Systems (AIS) (November 1997)

DOD Directive 4630.5, Compatibility and Interoperability of Command, Control, Communications, and Intelligence (C3I) Systems (November 1992)

CJCSI 6212.01A, Compatibility, Interoperability, and Integration of Command, Control, Communications, Computers, and Intelligence Systems (June 1995)

## 3. DTN TEST OBJECTIVES

Integration testing evaluates the installation and configuration process and the integration of multiple applications into a single operating environment. The objectives of integration testing, detailed in the Test and Evaluation Policy document, are not altered by the use of the DTN. Instead, use of the DTN expands the JITF test environment into a virtual test environment that meets the following objectives:

- Improves user participation in tests conducted by JITF
- Incorporates resources that are not present in the local environment
- Expands the set of interfaces available for interoperability testing
- Reduces testing costs by taking advantage of available, distributed resources
- Establishes the test environment required for testing of remote or deployable systems

Any organization currently connected to the JWICS, SIPRNET, or Internet is potentially accessible for test using the DTN. Any organization, site or resource can be incorporated into a DTN configuration provided they have the required resources, appropriate network access, and have agreed to participate in testing. The DTN will be used to support JITC Interoperablilty Testing, Security Testing, and end-user participation in JITF and JITC testing. See Figure 1 for an example of a DTN.

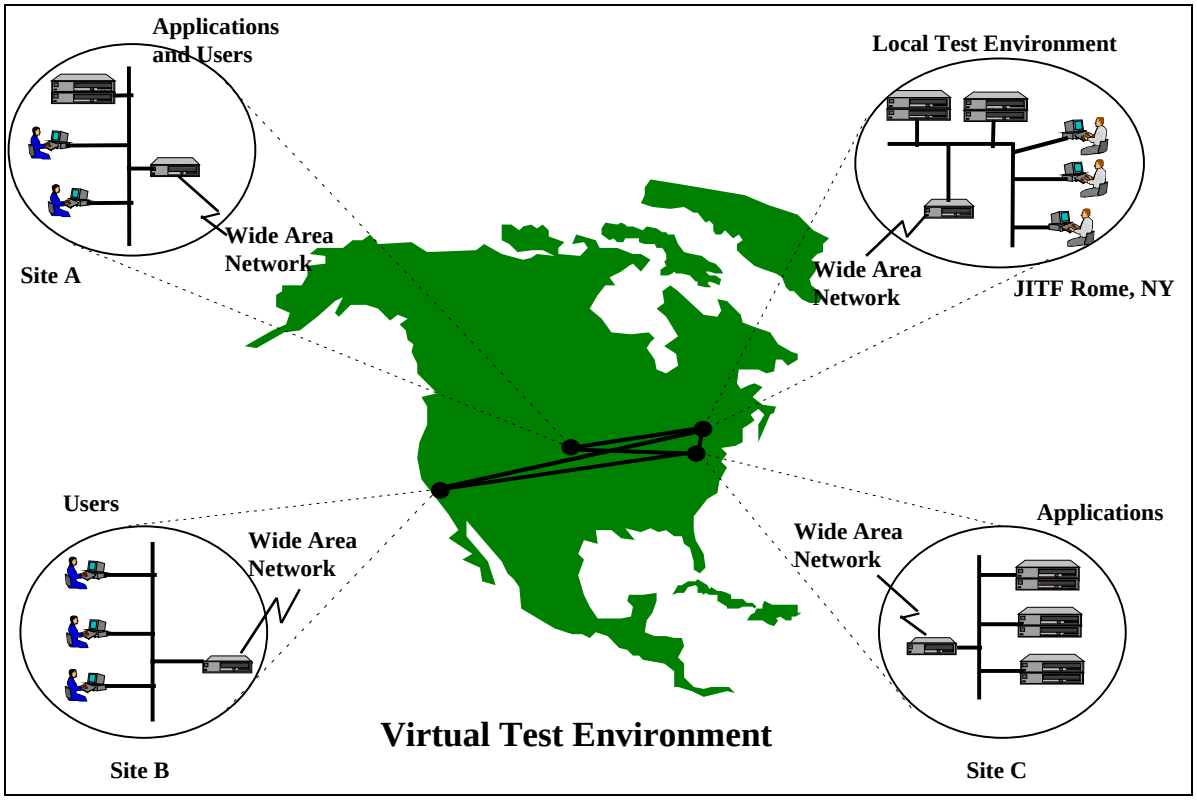


**Figure 1. Distributed Test Network**

## 4. TEST COORDINATION AND PLANNING

The DTN makes available geographically distributed resources and personnel for integration test conducted by the JITF. In accordance with the migration system certification process, when a mission application is scheduled for integration testing, Joint Test Planning Meeting (JTPM) is held three months prior to PMO in-plant testing. During the JTPM, the feasibility of using the DTN as a resource for integration, interoperability and/or Security Certification Testing will be discussed. A plan will be developed to determine responsibility for coordination of the tasks required to support each mission application test that will use the DTN. These tasks include:

- Identification of test objectives
- Identification of resources to be accessed using the DTN
- Identification of a site/PMO point-of-contact for each DTN resource
- Determination of the level of security for the test
- Passing of clearance information required to support test
- Coordination with the site Information Systems Security Officer (ISSO) and System Administrator to establish:
  - account set-up
  - network access control
  - data base access
  - baseline maintenance
  - recovery plan in the event of an unexpected system shutdown or failure

The configuration of the test environment will be determined by analyzing the mission application to be tested, the local and remote resources available, and the goals of the test participants. This configuration will be documented in the work plan that is submitted by the PMO to the JITF.

Additional infomation on the test planning process are available in the Test and Evaluation Policy document.

## 5. ACRONYMS

| | |
|---|---|
| **AIS** | Automated Information Systems |
| **COTS** | Commercial Off-The-Shelf |
| **CONOPS** | Concept of Operations |
| **CSE** | Client Server Environment |
| **DExA** | Department of Defense Intelligence Information System Client-Server Environment Executive Agent |
| **DII COE** | Defense Information Infrastructure Common Operating Environment |
| **DMB** | Department of Defense Intelligence Information System Management Board |
| **DODIIS** | Department of Defense Intelligence Information System |
| **DTN** | Distributed Test Network |
| **ERB** | Engineering Review Board |
| **GOTS** | Government Off-The-Shelf |
| **HP** | Hewlett Packard |
| **IIPF** | Intelligence Information Processing Facility |
| **ISSO** | Information Systems Security Officer |
| **JITC** | Joint Interoperability Test Center |
| **JITF** | Joint Integration Test Facility |
| **JTPM** | Joint Test Planning Meeting |
| **JWICS** | Joint Worldwide Intelligence Communication System |
| **ICD** | Interface Control Documents |
| **LAN** | Local Area Network |
| **NIMA** | National Imagery and Mapping Agency |
| **NT** | New Technology |
| **OS** | Operating System |
| **PM** | Program Manager |
| **PMO** | Program Management Office |
| **SIPRNET** | Secret Internet Protocol Routing NETwork |
| **SIMO** | DODIIS Systems Integration Management Office |

| | |
|---|---|
| **SGI** | Silicon Graphics |
| **VTF** | Virtual Test Folder |